

WHAT IS CLAIMED IS:

1. A method for use in a cellular communications system having a centralized radio processing portion (hotel) in communication with a plurality of remote air interface radio portions (RH) over a transport medium, the method comprising:

in the centralized radio processing portion, compensating for a fixed delay associated with the transport medium coupling the centralized radio processing portion and one of the remote air interface radio portions in evaluating a time period corresponding to a variable delay between transmission by a mobile and receipt of the transmission by the centralized radio processing portion, the mobile station communicating with the one of air interface radio portions, the communication being received by the centralized radio processing portion from the one of the remote air interface radio portions.

2. The method as recited in claim 1 wherein the evaluating is determining a time out period associated with a call from the mobile station.

3. The method as recited in claim 1 wherein the evaluating is for synchronizing calls by adjusting a transmission timing of the mobile station according to the evaluation of the time period corresponding to the variable delay.

4. The method as recited in 3 wherein the compensating for the fixed delay includes subtracting out the fixed delay in a calculation of the time period corresponding to the variable delay.

5. The method as recited in claim 1 wherein the compensating comprises increasing a first time period corresponding to receipt of the transmission at the one of the remote air interface radio portions, by a second time period corresponding to the fixed delay.

6. The method as recited in claim 5 wherein the first time period is a time out period within which the centralized radio processing portion expects a communication to be received by the one of the remote air interface radio portions.

7. The method as recited in claim 6 wherein a call from the mobile station is dropped if the receipt of the communication from the mobile station is received after a third time period equal to the first plus the second time periods.

8. The method as recited in claim 5 wherein the first time period is an adjustable timing advance time period used to avoid overlap in time slots with another mobile station.

9. The method as recited in claim 1 the mobile station is provided a timing adjust value independent of the fixed delay.

10. The method as recited in claim 1 further comprising utilizing a calibrated value for the fixed delay.

11. The method as recited in claim 1 wherein a plurality of remote air interface radio portions are coupled via the transport medium to the centralized radio processing portion, and wherein the centralized radio processing portion accounts for a different fixed delay for each of the remote air interface radio portions.

12. The method as recited in claim 1 wherein the transport medium is optical fiber.

13. The method as recited in claim 1 wherein the transport medium is one of free state optical and microwave.

14. The method as recited in claim 1 further comprising supplying a base station controller (BSC) with the variable delay.

15. A cellular communication system comprising:
a host processing part (hotel) coupled to receive a communication over a transport medium from a remote air interface part (RH), the host processing part determining a time interval between transmission by a mobile station in communication with the remote air interface part (RH) and receipt of the transmission at the host processing part, the host processing part compensating for a fixed delay associated with

the transport medium coupling the host processing part and the remote radio interface part in evaluating the time interval.

16. The cellular communication system as recited in claim 15 comprising a counter coupled to account for the fixed delay.

17. The cellular communication system as recited in claim 15 wherein the counter is implemented in software.

18. The cellular communication system as recited in claim 15 wherein the time interval is a sum of a first time period corresponding to receipt of the transmission at the remote air interface part and the fixed delay.

19. The cellular communication system as recited in claim 15 wherein the evaluating determines if the transmission from the mobile station was received within an allowable timeout period.

20. The cellular communication system as recited in claim 19 wherein the timeout period is evaluated by adding the fixed delay to the allowable time out period and comparing to the time interval.

21. The cellular communication system as recited in claim 19 wherein the timeout period is evaluated by subtracting the fixed delay from the time interval and comparing to the allowable time out period.

22. The cellular communication system as recited in claim 15 wherein the time interval corresponds to a timing advance time period summed with the fixed delay, the timing advance period being used to avoid overlap in time slots with another mobile station.

23. The cellular communication system as recited in claim 15 wherein the fixed delay is a measured value.

24. The cellular communication system as recited in claim 15 further comprising a plurality of remote radio interface parts coupled via the transport

medium to the host processing part, and wherein a different fixed delay is associated with each of the remote air interface parts.

25. The cellular communication system in claim as recited in claim 15 wherein the transport medium is an optical fiber.

26. The cellular communication system as recited in claim 15 wherein the transport medium is one of free state optical and microwave.

27. A cellular communication system comprising:
a host processing part coupled to receive a communication from a mobile station via a transport medium; and
means for compensating for a fixed delay associated with a transport medium coupling the host processing part and a remote radio interface part when evaluating a timing period associated with a transmission from the mobile station in communication with the remote radio interface part.

28. The cellular communications system as recited in claim 27 wherein the timing period is a time out period associated with dropping a call if the communication is not received within the time out period.

29. The cellular communications system as recited in claim 27 wherein the timing period is an adjustable timing advance used to avoid overlap in time slots with another mobile station.